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Product Description
Product Number: 4205.03.15

AUTOMATIC STORAGE & RETRIEVAL SYSTEM (AS/RS)

(JARVIS B. WEBB)

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The Automatic Storage & Retrieval System (AS/RS) is the core commercial application for the warehouse overstock functions of the Department of Alcoholic Beverage Control. The system is composed of a real-time hardware control system and software to track inventory within the overstock warehouse.

The hardware component consists of two systems that transport pallets of product into and out of the AS/RS warehouse. The Jarvis B. Webb Area Group Controller (AGC) system controls the induction process, moving product to one of the five automated cranes in the AS/RS. It also controls the movement of pallets from the AS/RS to an exit point or a transfer point. The transfer point then moves the pallets to one of 24 replenishment locations using automated Sorting Transfer Vehicles (STV's).

The Inventory control component supported by DTS is a Windows 2008 Server using Oracle 11G and Java applications that interface with the main Warehouse Management System on the DABC's enterprise server. The connection between these two systems is essential to all DABC operations. In 2011, the AS/RS Warehouse was upgraded to enable it to function independently in the case of a disaster or power outage – but the ability to function independently is also dependant on its connection to the DABC enterprise server.

The hours of support required for AS/RS are listed below.

Application	Support Hours	Days of Week
AS/RS	4 am to 5 pm 8 am to noon	Monday - Friday Saturday (December)

Product Features and Descriptions

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Feature	Description
Warehousing	The AS/RS System has client software running on its Windows 2008 Server which interfaces with the WMS System on the enterprise server.
Receiving	Although the actual receiving function is performed by the WMS, bulk inventory can be stored in an 'Overstock Location' – the AS/RS. Bulk products are inducted into the AS/RS for storage and FIFO based product rotation.
Replenishment	When the WMS requests inventory to be replenished from an overstock location to the pick location, the AS/RS retrieves the pallet of product from the automated warehouse and delivers it to an exit point either directly or via transfer to the AGC/STV system. Product is then moved to its home pick-location by forklift.
Physical Equipment	DABC has a contract with Jarvis B. Webb to service and maintain the AS/RS roller and transfer systems, robotic crane and STVs. The inventory control database is supported by DTS.
Inventory Control	AS/RS uses an Oracle 10i database to track inventory movement in and out of the automated warehouse. The system uses a 'Round Robin' method of distributing pallets of products between the five robotic cranes providing automatic stock rotation.
Program modifications	Program bug fixes and/or system enhancements are deployed on schedule as prioritized and agreed upon by the DABC executive and management who form the DABC I.T. Action Committee (ITAC).
System Response Time	The on-site server location provides instantaneous response to user requests and other system interfaces including the product induction, replenishment, and inventory control functions. This also supports the fixed-IP requirement inherent in this vendor supplied system.
Disaster Recovery	The Oracle database has a secondary copy housed on a second Windows 2008 located in the warehouse. The AGC/STV control PC has not yet been addressed but is the responsibility of Jarvis B. Webb. The connection between the AS/RS systems and the WMS on the DABC's enterprise server is critical to all operations and must remain free of interruptions.

Features Not Included

Feature	Explanation
User Training	User training is provided by Jarvis B. Webb.
Contract Administration	DABC will maintain the Service Contract with Jarvis B. Webb for Maintenance of all hardware, AS/RS Cranes, Transport Systems and STV's.

Rates and Billing

Feature	Description	Base Rate
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Application DBA	Primary responsibility for the health and maintenance of all instances of the production database (including load balancing, synchronization with the backup server located in the warehouse, backup and restore operations etc). Also includes liaison with the software vendor for issues concerning the commercial application.	See DTS Approved Rate 1 DBA
Custom Code bug fixes and enhancements	Interface changes or updates required for communication with the main WMS on the DABC enterprise server.	See DTS Approved Rate 1 Programmer/Analysts
Hardware Support	System hardware installation, hosting, environment, LAN/WAN connectivity, etc.	Support within established rates for DTS enterprise hosting, networking, & security staff as appropriate.

Ordering and Provisioning

AS/RS users report non-database/crane-related problems directly to Jarvis B. Webb under the terms of the agency's maintenance contract with that vendor.

Problems related to the AS/RS database or the movement of product between AS/RS and the main WMS are reported to DTS via the Help Desk number. These problems are then prioritized by severity and resolved by the tech support/development group as appropriate.

DTS Responsibilities

1. Provide 24x7uptime except for scheduled maintenance.
2. Provide support from 4 AM to 5 PM normal business hours Monday – Friday.
3. Provide support from 5 AM to 10 AM on Saturday during the month of December.
4. Schedule routine maintenance in coordination with the DABC.
5. Coordinate and implement computer hardware/software upgrades on a 4 year cycle.
6. Notify DABC of any problems and resolutions.
7. Assist the DABC with system Upgrade, Modification, Enhancement, and/or Replacement projects as necessary to support the agency's business.
8. Provide instruction and training as needed.
9. Monitor Windows 2008 standby server to ensure that mirroring is working.
10. RMAN creates backups every two hours.
11. Every two hours the database is replicated to the stand by server
12. Respond promptly to any component outage, or loss of connection to the main WMS.
13. Respond appropriately to exercise or execution of the DABC Disaster Recovery Plan.
14. Risk Assessments recently completed at DABC identified existing mitigation controls that are in effect at this time. DTS will verify and test all existing mitigation controls that are associated with DTS responsibilities.
15. Application and database updates are performed by the vendor. DABC is responsible for these costs.

Agency Responsibilities

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1. DABC will maintain the Service Contract with Jarvis B. Webb for Maintenance of all hardware, AS/RS Cranes, Transport Systems and STV's.
2. DABC will provide down-time for scheduled maintenance.
3. Report appropriate problems to DTS staff and allow appropriate time for resolution.
4. Purchase components needed to upgrade and maintain system.
5. Risk Assessments recently completed at DABC identified existing mitigation controls that are in effect at this time. DABC will verify and test all existing mitigation controls that are associated with DTS functions.
6. Application and database updates are performed by the vendor. DABC is responsible for these costs.

DTS Service Levels and Metrics

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In an effort to improve service to our customer agencies, DTS will measure and report on the following enterprise metric goals:

- Application Availability
- Resolution Time
- Initial Response
- First Contact Resolution
- Customer Satisfaction Surveys

Application Availability:

Application availability measures DTS' efforts to ensure agency key business applications meet the percent of availability goals identified in the agency Service Level Agreements (SLA). DTS will determine application availability based upon the collective measurement of the configuration items (both hardware and software) which are determinant to supporting the agency business services applications. These metrics will be reported each month by agency with a cumulative report showing DTS' efforts over several months and posted to the DTS Metrics web page at <http://dts.utah.gov/metrics/index.php>.

Metric Description	Target
Availability during production hours based on 13 Hrs/Day, 5 Days/Week (16,770 min/mo).	99% Availability

Resolution Time:

Resolution time measure DTS' efforts to resolve customer incidents within the timelines set below based upon urgent, high, medium and low priorities. These metrics will be reported each month, by agency, with a cumulative report showing DTS' efforts over several months. These reports will then be posted on the DTS Metrics web page at: <http://dts.utah.gov/metrics/index.php>.

Total Time to Resolution	Target: Percent of Tickets Meeting Priority Timelines
Low priority - 6 Business hours	90%
Medium priority - 4 Business hours	90%
High priority – 3 Clock hours	90%
Critical priority - 3 Clock hours	95%

Initial Response:

Initial response measure DTS' efforts to respond to customer incidents within the timelines set below based upon urgent, high, medium and low priorities. These metrics will be reported each month by agency with a cumulative report showing DTS' efforts over several months. These reports will then be posted on the DTS Metrics web page at: <http://dts.utah.gov/metrics/index.php>.

Time to Initial Response	Target: Percent of Tickets Meeting Priority Timelines
Low priority – 1 Business hour	85%
Medium priority – 1 Business hour	85%
High priority – 1 Clock hour	90%
Critical priority – 30 Clock minutes	95%

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First Contact Resolution:

First contact resolution measures DTS' efforts to resolve customer incidents on initial contact with either our help desk or a technical specialist. These metrics will be reported each month, by agency, with a cumulative report showing DTS' efforts over several months. These reports will then be posted on the DTS Metrics web page at <http://dts.utah.gov/metrics/index.php>.

Metric Description	Target
First Contact Resolution	95% of all incidents reported resolved on initial contact

Customer Satisfaction Surveys and Reporting:

All users/customers whose technical incidents are resolved by DTS staff will be given the opportunity to respond to an on-line survey regarding their level of satisfaction with the support received from DTS. Responding to the survey is voluntary.

The chart below identifies DTS enterprise goals for customer satisfaction. Cumulative monthly reports will be created displaying the customer's level of satisfaction with DTS support. These reports will then be posted on the DTS Metrics web page at <http://dts.utah.gov/metrics/index.php>.

Customer Satisfaction Target

Metric Description	Target
Average level of satisfaction with resolution efforts	≥ 4.5 on a scale of 0 - 5
Percentage of respondents expressing satisfaction (vs. dissatisfaction)	95% of respondents satisfied